

What is claimed is:

1. A pharmaceutical composition comprising an isolated herpes simplex virus (HSV) polypeptide, wherein the polypeptide comprises a U_L19, U_L21, U_L49 or U_L50 protein or a fragment thereof, and a pharmaceutically acceptable carrier.
- 5 2. A pharmaceutical composition comprising an isolated HSV polypeptide and a pharmaceutically acceptable carrier, wherein the polypeptide comprises an amino acid sequence selected from the group consisting of:
 - 10 (a) amino acids 1078-1319 of U_L19;
 - (b) amino acids 148-181 of U_L21;
 - (c) amino acids 105-190 or 177-220 of U_L49;
 - (d) amino acids 118-312 of U_L50;
 - (e) amino acids 1-273 of glycoprotein E (gE);
 - (f) amino acids 185-197 or 209-221 of VP16; and
 - (g) substitutional variants of (a)-(f).
- 15 3. The composition of claim 1, wherein the polypeptide is a fusion protein.
4. The composition of claim 3, wherein the fusion protein is soluble.
5. The composition of claim 2, wherein the polypeptide is a fusion protein.
6. The composition of claim 5, wherein the fusion protein is soluble.
7. A polynucleotide that encodes a polypeptide comprising an amino acid sequence selected
20 from the group consisting of:
 - (a) amino acids 1078-1319 of U_L19;

- (b) amino acids 148-181 of U_L21;
 - (c) amino acids 105-190 or 177-220 of U_L49;
 - (d) amino acids 118-312 of U_L50;
 - (e) amino acids 1-273 of glycoprotein E (gE);
 - 5 (f) amino acids 185-197 or 209-221 of VP16; and
 - (g) substitutional variants of (a)-(f).
- 8. A vector comprising the polynucleotide of claim 7.
 - 9. A host cell transformed with the vector of claim 8.
 - 10. A method of producing an HSV polypeptide comprising culturing the host cell of claim 9
10 and recovering the polypeptide so produced.
 - 11. An HSV polypeptide produced by the method of claim 10.
 - 12. A pharmaceutical composition comprising a polynucleotide that encodes an HSV
polypeptide, wherein the polypeptide comprises a U_L19, U_L21, U_L49 or U_L50 protein or a
fragment thereof, and a pharmaceutically acceptable carrier.
 - 15 13. A pharmaceutical composition comprising the polynucleotide of claim 7 and a
pharmaceutically acceptable carrier.
 - 14. A recombinant virus genetically modified to express a U_L19, U_L21, U_L49 or U_L50 protein
or a fragment thereof.
 - 15. A recombinant virus genetically modified to express the polypeptide of claim 11.
 - 20 16. The recombinant virus of claim 14 which is a vaccinia virus, canary pox virus, lentivirus,
retrovirus, herpes virus or adenovirus.

17. A pharmaceutical composition comprising the virus of claim 16 and a pharmaceutically acceptable carrier.
18. A method of producing immune cells directed against HSV comprising contacting an immune cell with an antigen-presenting cell, wherein the antigen-presenting cell is modified to present an epitope included in a U_L19, U_L21, U_L49 or U_L50 protein or in a polypeptide selected from the group consisting of:
- (a) amino acids 1078-1319 of U_L19;
 - (b) amino acids 148-181 of U_L21;
 - (c) amino acids 105-190 or 177-220 of U_L49;
 - (d) amino acids 118-312 of U_L50;
 - (e) amino acids 1-273 of glycoprotein E (gE);
 - (f) amino acids 185-197 or 209-221 of VP16; and
 - (g) substitutional variants of (a)-(f).
19. The method of claim 18, wherein the immune cell is a T cell.
20. The method of claim 19, wherein the T cell is a CD4⁺ or CD8⁺ T cell.
21. An immune cell produced by the method of claim 18.
22. A method of killing an HSV infected cell comprising contacting an HSV infected cell with the immune cell of claim 21.
23. A method of inhibiting HSV replication comprising contacting an HSV infected cell with the immune cell of claim 21.
24. A method of enhancing secretion of antiviral or immunomodulatory lymphokines comprising contacting an HSV infected cell with the immune cell of claim 21.

25. A method of enhancing production of HSV-specific antibody comprising contacting an HSV infected cell in a subject with the immune cell of claim 21.
26. A method of treating or preventing an HSV infection in a subject comprising administering the composition of claim 1 to the subject.
- 5 27. A method of treating or preventing an HSV infection in a subject comprising administering the immune cell of claim 21 to the subject.
28. A method of treating or preventing an HSV infection in a subject comprising administering an antigen-presenting cell modified to present an epitope included in a U_L19, U_L21, U_L49 or U_L50 protein or in a polypeptide selected from the group consisting of:
- 10 (a) amino acids 1078-1319 of U_L19;
- (b) amino acids 148-181 of U_L21;
- (c) amino acids 105-190 or 177-220 of U_L49;
- (d) amino acids 118-312 of U_L50;
- 15 (e) amino acids 1-273 of glycoprotein E (gE);
- (f) amino acids 185-197 or 209-221 of VP16; and
- (g) substitutional variants of (a)-(f);
- to the subject.
29. The method of claim 28, wherein the antigen-presenting cell is modified with a virus, peptide or microsphere capable of mediating expression of the epitope.
- 20 30. The pharmaceutical composition of claim 1, further comprising an adjuvant.
31. The pharmaceutical composition of claim 2, further comprising an adjuvant.

32. The pharmaceutical composition of claim 12, further comprising an adjuvant.
33. The pharmaceutical composition of claim 13, further comprising an adjuvant.
34. The pharmaceutical composition of claim 17, further comprising an adjuvant.